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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,767	12/17/2001	Sung Joon Bae	8733.566.00	2886

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EXAMINER	
BELL, PAUL A	

ART UNIT	PAPER NUMBER
2675	4

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/015,767	BAE ET AL.	
	Examiner	Art Unit	
	PAUL A BELL	2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☒ Claim(s) *8-38* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuyama et al. (6,556,176) in view of Iida (6,052,074).

With regard to claim 1 Okuyama et al. teaches a driving circuit for an active matrix electroluminescence device (AMELD) having data and gate drivers that respectively transmit a data signal and a scan signal to each of a plurality of pixel regions (figure 4, abstract, and column 1, lines 8-10), comprising: a latch for latching a control signal (figure 4, item 10); and a plurality of digital to analog converters (DAC) for outputting a reference current of a certain level as a data signal according to "one or more" channels and the control signal (figure 4, D0, D1, D2, D3, I0, I1, I2, I3).

Okuyama et al. does not illustrate the "one or more" channels being "R/G/B channels" he instead teaches one channel and therefore only capable of monochrome in contrast to the more marketable multicolor display.

However Iida teaches a multi-channel D/A converter which provides "R/G/B channels" (Abstract, figure 1, DR, DG, DB, AR, AG, AB).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Okuyama et al. active EL monochrome display

device to produce color using the "R/G/B channels" taught by Iida because Iida provides motivational reasons for doing so are in column 1, lines 10-15.

With regard to claim 2 the combination of Okuyama et al. and Iida suggest the driving circuit of the active matrix electroluminescence device (AMELD) as claimed in claim 1, wherein the digital to analog converts include a reference current output unit for outputting the reference current (SEE Iida figure 1 Tr11, Tr12 ....Tr1n);and a sink current controller for controlling a level of a sink current according to each R/G/B channel by receiving the reference current from the reference current output unit (SEE Iida figure 1 SW11, SW12,... SW1n and AR).

With regard to claim 3 the combination of Okuyama et al. and Iida suggest the driving circuit for an active matrix electroluminescence device as claimed in claim 2, wherein an output terminal of the sink current controller is connected to a data line (SEE Okuyama et al. item 3).

With regard to claim 4 the combination of Okuyama et al. and Iida suggest the driving circuit for an active matrix electroluminescence device as claimed in claim 2, wherein the reference current output unit temporarily combines a plurality of reference current sources of a plurality of switching devices to output the reference current (SEE Okuyama et al. item 3).

With regard to claim 5 the combination of Okuyama et al. and Iida suggest the driving circuit for an active matrix electroluminescence device as claimed in claim 1, wherein the control signal is a digital input signal corresponding to a video analog signal (SEE Iida figure DR, DG and DB).

With regard to claim 6 the combination of Okuyama et al. and Iida suggest the driving circuit for an active matrix electroluminescence device as claimed in claim 4, wherein the reference current sources are temporarily set to any one of binary weight and gamma correction methods (SEE Iida illustrate the weighting of currents in fig 1).

With regard to claim 7 the combination of Okuyama et al. and Iida suggest the driving circuit for an active matrix electroluminescence device as claimed in claim 4, wherein the switching device is a thin film transistor (SEE figure 1 item SW11 where TFT is an obvious way to implement a switch).

Allowable Subject Matter

3. Claims 8-38 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Bell whose telephone number is (703) 306-3019.

If attempts to reach the examiner by telephone are unsuccessful the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377 can help with any inquiry of a general nature or relating to the status of this application.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or Faxed to: (703) 872-9306

Or Hand-delivered to: Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Paul Bell
Art unit 2675
March 19, 2004

CHANH NGUYEN
PRIMARY EXAMINER